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RAPHAEL PUMPELLY of Newport, Rhode Island.	

At one o'clock the company proceeded to the Old South Meeting House, where the Hon. Robert C. Winthrop, who had consented, on a few hours' notice, to deliver the chief address, presided. Around him, on the platform, sat Professor William B. Rogers, president of the Institute of Technology; the venerable Mark Hopkins of Williamstown; the Very Reverend the Dean of Chester, England; Joseph Lovering, the Vice-President, and other officers of the Academy.

The Rev. Dr. Mark Hopkins invoked the blessing of Divine Providence upon the occasion, and then followed the

ADDRESS BY THE HON. ROBERT C. WINTHROP.

We are here, ladies and gentlemen, to commemorate the hundredth anniversary of the American Academy of Arts and Sciences. The committee of arrangements, whose organ I have the honor to be, have selected for our public exercises this venerable meeting-house, in which not a few of those who founded our institution, a hundred years ago, were accustomed to assemble for the worship of God; and in which many more of them had often met, on most memorable occasions, to take counsel for the defence of American liberty. It is the meeting-house, too, in which the governors and legislatures of our Commonwealth, for a long succession of years, and until a somewhat recent period, have listened to their annual election sermon, on this very day of the year, — the last Wednesday of May. Having been providentially spared from the flames of the great Boston fire of 1872 — of the arrest of whose ravages in this direction it stands as a landmark and a monument, — I had almost said as a brand from the burning, — it has mainly owed its continued preservation to the pious and patriotic efforts of the ladies of our city and vicinity; and to them and their associates of our own sex we offer our grateful acknowledgments for the privilege of being here to-day.

But, my friends, this Old South meeting-house has an association for us, as an Academy of Arts and Sciences, nearer and dearer than any of those to which I have alluded. It was here, on this spot, in the old church edifice of this parish, that, with a punctuality and a despatch which seemed to prefigure, as it certainly characterized,

his whole career, our great forerunner in the field of American Arts and Sciences; and I might add of American liberty, also, was baptized. Brought over here in a blanket from the home of his father and mother just across the street, on the very day of his birth, — Sunday, the 6th of January, old style, or, as we now count it, the 17th of January, 1706, — that infant child of a humble tallow-chandler received from the lips of the pastor of this Old South Church, not without the blessing of God invoked and vouchsafed — “non sine Diis animosus infans” — the name of BENJAMIN FRANKLIN. Where, where else, so appropriately could American Art and Science repair for the celebration of their own birth, their own small beginnings, their own infant lisplings, as to the cradle and the christening font of our great Bostonian! If, indeed, my friends, we had a second day to spare for our celebration, it might well be occupied in an excursion to the birthplace and early home of another Massachusetts Benjamin, — Benjamin Thomson, Count Rumford, the great benefactor of this Academy and the founder of the Royal Institution in London, — such an excursion as Tyndall took pains to make a few years ago under the escort of Rumford’s biographer, Dr. Ellis, in token of his reverence for the memory of the great American philosopher of light and heat. But we must content ourselves with a single day and a single birthplace.

We may not, however, forget that while the history of American Arts and Sciences may fairly begin with our Boston-born printer’s apprentice, that history must turn to another city and another State for the opening pages of its earliest chapter. Old as we are, we cannot claim the distinction of being the oldest of American Scientific Associations, and we are rejoiced to recognize and to welcome among our guests to-day a distinguished delegation from our elder sister, the American Philosophical Society of Philadelphia, which was founded by Franklin not a great many years after he had run away, as a lad of seventeen, from his apprenticeship and indentures here, and had established himself in the City of Brotherly Love. That noble city has a heritage of historic glory which may well be the admiration, if not the envy, of all other American cities. Not only was it the scene of the first Continental Congress, of the immortal Declaration of Independence, and of the formation of the Constitution of the United States; — but it was the birthplace, also, of the first American public subscription library; of the first volunteer fire engine company; of the first volunteer militia regiment, of which Franklin was the colonel; of the first American agricultural society; of the first American Bible society; and, I believe I may safely add, of the earliest anti-slavery society in our land. But it is as the acknowledged birth-

place of the first American philosophical society that we hail it especially on this occasion, and welcome the delegates from that city and from that society with an exceptional emphasis and fervor. We welcome, indeed, most heartily to this occasion every one of the delegates who have honored us by their presence from other cities and States, and from other institutions, American and foreign; from Washington, from New York and New Hampshire, from Connecticut and Iowa and California, from Italy and France and Russia, from Belgium and Holland and Denmark and Germany and Sweden, from the Dominion of Canada and from old England, and from where-soever else beneath the sun they may have come to our festival; and we shall hope for an opportunity of expressing our acknowledgments to them all at a later hour of the day, if not now. But they will all pardon us, I am sure, for confining our first individual recognition, here and now, to the parent American Philosophical Society of Philadelphia.

That Society originated in a time of colonial peace and quietness. Our Academy had its origin while the war of independence was still in progress, while the principles of republican equality were on every tongue and in every heart, and when our honored founders would have been foremost in protesting against anything which looked like a recognition of hereditary rights or claims to consideration. Yet I cannot forget, not merely that the distinction of presiding on this occasion has been assigned to the oldest living descendant of our first president, James Bowdoin, but that it was to have been my privilege and pleasure, in a few moments, to present to you the oldest living descendant of him, who, more than any other one man, is to be remembered this day as the founder of our Academy, the illustrious John Adams. Having succeeded Governor Bowdoin as president of the Academy, and having himself been succeeded, after no very long interval, by his hardly less illustrious son, John Quincy Adams, the chair which they both filled is now occupied and adorned by a third scion of the same distinguished stock. *Primo et secundo avulsis*, “non deficit alter aureus;” or, if I may borrow a line from the translation of the *Æneid*, by his Excellency Governor Long, whose necessary absence we all regret, I may say, —

“The first torn off,
There lacks not still another branch of gold.”

Having been our minister at London during a very critical period, and our commissioner at Geneva at the great arbitration, the Academy were proud to place at their head one so deservedly distinguished at home and abroad, and we relied upon

him especially to-day to crown a faithful service of many years by pronouncing our centennial oration. But, my friends, I have a great disappointment to announce to you at this moment, and one to which it requires all the philosophy which may have been accumulated by this Academy in a whole century, individually or collectively, to be easily reconciled. Our excellent president, no longer on the sunny side of three-score years and ten, and with whose infirmities in this respect I have a right to feel a special sympathy, has found himself, within the last twenty-four hours only, so oppressed by the heat of the weather, by the responsibilities of this occasion, and by positive ill health, as to be absolutely unable to be with us. The loss is as irreparable as it was unexpected. It would be quite impossible for any one at a day's notice to prepare a worthy address for such an occasion as this. Our story would have been told by him amply, aptly, admirably. You would have had the detailed account of our original organization as an Academy, and of the excellent men who were foremost in its early proceedings. He would have done full justice to every one of them, except, perhaps, to his own venerated grandfather and father; and our grateful memories would have been sure to supply in that respect whatever his modesty might have omitted. All our other eminent presidents would have received their merited tribute at his hands. For, indeed, there has been a noble succession of admirable men in our chair,—BOWDOIN and the ADAMSES; HOLYOKE, the eminent physician and surgeon, who was permitted to round out a full century of life; NATHANIEL BOWDITCH, known as a young man upon all the seas by his *Navigator*, and afterward known to science throughout all lands by his translation of the *Mécanique Céleste* of La Place; good Dr. JAMES JACKSON, whom old Thomas Fuller might have had in mind and taken as a pattern in his portrait of the beloved physician: JOHN PICKERING, with his vocabularies and lexicons and orthography of the Indian languages of North America,—one of the chief founders of American Comparative Philology; JACOB BIGELOW, with his manifold and marvellous acquirements, his sterling common sense, his quick wit and abounding humor, and his consummate medical wisdom; and, lastly, our great botanist, ASA GRAY, of whom I dare not say, in his living presence,—which we all welcome,—what all of us know and appreciate without its being said by any one,—whose recent Lectures at Yale College, on “Natural Science and Religion,” would alone be enough to secure for him the respect and gratitude of every Christian reader.

But it is not for me to attempt to do justice to these and other eminent presidents and fellows of our Academy by such undigested utterances. Their names, however, even if it be nothing but their names, must not, and shall not, be lost to our centennial commemoration.

Meantime, if we are deprived to-day of any protracted discourse upon the great objects of our Association, or upon the success with which those objects have been prosecuted during the hundred years which are now completed, we may at least point with satisfaction and pride to our published record. The elaborate and stately volumes of our proceedings and memoirs, which have succeeded each other to the number of nearly one for every three years of our existence, have furnished, and still furnish, abundant materials for all who may be inclined to pass a candid and deliberate judgment on our sayings and doings for a century. To them we confidently appeal. And let it not be forgotten, that the lack of pecuniary means, and not any lack of good will or good work or good matter, has prevented more frequent and more regular publications. With an adequate publication fund, such as we are now striving, — and by no means without success, — to establish, as a centennial tribute to the cause of science and art, no worthy laborer in that cause will longer be deprived of an opportunity to give the result of his researches to the world, and every successive year will have its regular and rightful volume. It is not prudent, however, for us to boast ourselves of to-morrow, while this centennial fund is but little more than half made up; and, even as to the past, we may well remember the warning of the wise man of Sacred Writ; “Let another praise thee, and not thine own mouth; a stranger, and not thine own lips.”

The first President of our Academy, Governor Bowdoin, whose words I have an hereditary right to borrow and appropriate, — though I should hardly care to inherit a responsibility for some of his peculiar astronomical theories and speculations, — when he pronounced his inaugural discourse in 1780, looked forward distinctly to this very day and hour and occasion, and attempted to anticipate what would be said of the Academy by some American historian, some American Livy or Thucydides, as he said, at the close of a century. Let me read from his address, as printed at the time, and from the very copy which has come down to me as an heirloom, a few sentences as he delivered them on the 8th of November, 1780. After acknowledging most gratefully the influence of the Philadelphia Society and the paramount and pre-eminent influence of Harvard University, the mother of us all, in everything which pertained to the advancement of education and learning, and of the arts and sciences, — he proceeds thus: —

“‘Rapt into future times,’ and anticipating the history of our country, methinks I read in the admired pages of some American Livy or Thucydides to the following effect: —

“A century is now elapsed since the commencement of American independency.

What led to it, and the remarkable events of the war which preceded and followed it, have been already related in the course of this history.

“It was not to be expected that our ancestors, involved as they were in a civil war, could give any attention to literature and the sciences; but, superior to their distresses, and animated by the generous principles which liberty and independency inspire, they instituted the excellent society called ‘The American Academy of Arts and Sciences.’

“This society formed itself on the plan of the philosophical societies in Europe, adopting such rules and principles of conduct as were best suited to answer the end of its institution. Among others they laid it down as a fundamental principle, that as true physics must be founded on experiments, so all their inquiries should, as far as possible, be carried on and directed by them. This method was strongly recommended by Sir Francis Bacon, ‘a genius born to embrace the whole compass of science, and justly styled the first great reformer of philosophy.’ It was adopted by succeeding philosophers, and peculiarly by the immortal Newton, whose system of philosophy, founded on the laws of nature, will for that reason be as durable as nature itself.

“Taking these great characters for their guide, and influenced by their illustrious example, they proceeded on fact and observation, and did not admit of any reasonings or deductions but such as clearly resulted from them. This has been the uniform practice of the society, whose members from time to time, having been chosen from men of every country, from every class and profession, without any other distinction than was dictated by the dignity of their characters, by their morality, good sense and professional abilities, — we find in the printed transactions of the society the best compositions on every subject within the line of their department. We find in those transactions new facts, new observations and discoveries; or old ones placed in a new light, and new deductions made from them.

“They have particularly attended to such subjects as respected the growth, population, and improvement of their country: in which they have so happily succeeded that we now see agriculture, manufactures, navigation and commerce in a high degree of cultivation; and all of them making swift advances in improvement as population increases. In short they have, agreeably to the declared end of their institution, ‘cultivated every art and science which might tend to advance the interest and honor of their country, the dignity and happiness of a free, independent, and virtuous people.’ ”

All these were the words of our first President a hundred years ago. This was

his "prophetic history," which he trusted would be realized by fact and be recorded by some future American Livy or Thucydides.

But what would he have said had it been vouchsafed to him really to penetrate that veil of the future which he contemplated, and to foresee even ever so small a part of that which has actually occurred, and been practically accomplished, in the arts and sciences to which this Academy has been dedicated. How would he and his fellow-founders of our institution have exulted, could they have known something of the stupendous discoveries in the heavens above and in the earth beneath and in the waters under the earth, which were to mark the century now ended so peculiarly as their own century! What words could have measured their amazement at the wonderful instruments which are now piercing the skies, and at the marvellous engines which are now tramping and thundering over land and sea, scooping out canals like that of Suez, or, it may be, of Darien or Nicaragua, as they go; or tunnelling mountains, like Mount Cenis or St. Gothard, or, it may be, Mont Blanc itself, to which our own little Hoosac is but a molehill! What would they have said, could they have caught the click of an ocean, or even of a land, telegraph; or listened to some words of their own bottled up for a century, and coming out fresh and articulate, from the lips of a telephone or phonograph! What delight they would have enjoyed could they have witnessed the working even of any of the myriad of lesser and simpler inventions and implements of practical art, which are ministering to the daily and hourly convenience and comfort of common life! And what ecstasy would have mingled with their bewilderment, as they reflected that, by building up their little local Academy, they might claim some humble part in fostering and furthering the great scientific movement which had pervaded the world, and might thus themselves be entitled to some humble share in the glory! What satisfaction they would have enjoyed in knowing, too, that our foreign honorary membership would be so highly appreciated by the select few on whom it has been conferred, and in seeing upon our roll such names as Helmholtz and Kirchhoff, as Sir William Thomson and Sir Joseph Hooker, as Owen and Max Müller, as Carlyle and Mignet, and Dean Stanley and Gladstone, and Ruskin and Tennyson, standing side by side with those of our own Peirce and Gray, and Rogers and Emerson, and Longfellow and Whittier, and Holmes and Bancroft, and Hopkins and Woolsey, and Dana and Porter!

Could the founders of this Academy even now look down from the skies, as we may hope they may be permitted to look down to-day, upon our own little State of Massachusetts and our own little city of Boston, with what rapture would they

behold, encircling this Academy as their original nucleus, their primal nebula, if I may so speak, — a Natural History Society, with its manifold and growing collections and cabinets; a Technological Institute, with its admirable curriculum of scientific education; a splendid Museum of the Fine Arts; an Observatory, with its comet-seekers and transit instruments, and with its noble refractor; the Lawrence Scientific School; the Chemical Laboratory of Professor Cooke; the Garden and Herbarium of our great botanist, Dr. Gray; the magnificent Agassiz Museum of Comparative Zoology, where an accomplished son is so nobly carrying on the cherished work of his ever-honored and lamented father, and, close at its side, the Peabody Museum of Archæology and Ethnology; and all our thriving associations of History and Literature and Music, of Horticulture and Agriculture; and, better than all, the hosts of busy and devoted students in these and other institutions, who are engaged, day by day and night by night, in searching out the mysteries of Nature, and extorting from her so many of the secrets which have been hid from all human eyes and all human conceptions from the foundation of the world!

They would be convinced that there was, indeed, such a process as Evolution, though I think they would be content, as some of their descendants still are, to call it by the good old-fashioned name of *development*. They would certainly concur in the idea that their little Academy had furnished, or fallen upon, a plentiful supply of protoplasm, though I have great faith that they would cling tenaciously to the simpler and more euphonious word — *germ*. At all events, they would be heard exclaiming with one accord, in the sublime words with which our first President concluded his inaugural discourse a hundred years ago, “Great and marvellous are thy works, Lord God Almighty, in wisdom hast thou made them all!”

And with these words I, too, must be allowed to close this attempt — from which I would so gladly have been excused — to fill a gap which was not dreamed of until a late hour of yesterday, and to deliver a centennial oration at less than twenty-four hours’ notice. If I have thus exhibited my reverence for the memory of our first President, and my loyalty to the Academy in its hour of need, and if I have rendered the lamented absence of my honored friend, Mr. Adams, less painful to himself as well as to you, I shall be more than rewarded for the effort. I should be sorry, however, to be involved in such an emergency again, at least before the expiration of another full hundred years!

Brief addresses were then made as follows: —